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Formosan Relationships with Southeast Asia

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Introduction

On Formosan archæology very little is available to the non-reader of Japanese and Chinese, and this is the first English paper, to my knowledge, on Formosan relations with Southeast Asia. I have not been able to consult in its entirety the Japanese paper on 'The place of Formosa in the Prehistory of Southeastern Asia', by Tadao Kano in his *Studies in the Ethnology and Prehistory of Southeast Asia* (Vol. 2, 1952: ch. 7, pp. 89–186). Dr Erika Kaneko has kindly furnished a translation of Kano's conclusions published below.

English language materials on Formosa are limited to three short primary sources and several short secondary sources including English summaries of Chinese articles. The major primary source is 'Fengpit'ou: A prehistoric site in south Formosa that yielded painted and black pottery' by Kiyotari Tsuboi (1956). Others are: Solheim (1961*a*) on a jar burial site, and Leach (1938) on stone tools from Botel Tobago. Secondary sources of value are: Chang's survey of Formosan Archæology (1956), three papers presented at the Eighth Pacific Science Congress in Manila (Kokubu 1956; Mabuchi 1956; Miyamoto 1956) and Beyer's introduction to these papers (1956); very brief summaries in Beyer's two major works on the Philippines (1947, 1948); Kaneko's article on stone implements (1953), and English summaries of three primary sources in Chinese (Sung 1954–1955; Sung and Chang 1954; Shih and Sung 1956). The several articles in English, or in Chinese with English summaries, which appeared in Taiwan journals, on the distribution of specific artifact types or cultural complexes on Formosa and elsewhere have not been used.

Supplementary data has been gathered from the illustrations of three reports in Chinese (Records Office of Nan-t'ou District, 1956; Liu Chih-wan 1960; Liu Pin-hsiung and Liu Chih-wan 1957) and from Kano's two volumes on Southeast Asia (1946, 1952).

This report is suggestive and tentative. Annotated and abridged translations of several of Kano's comparative studies on Formosa and Southeast Asia (which we hope to publish in *AP*) will present a more comprehensive picture.

Palæolithic

No definite palæoliths have been reported in English from Formosa. Beyer (1947: 209), however, mentions ' . . . possible palæoliths found with Pleistocene mammalian fossils; of rhinoceros, stegodon, etc. (see notes by I. Hayasaka 1942)'.

Since it is logical that palæolithic man was on Formosa, I suggest here for comparison, the following.

Von Koenigswald (1956: 357) has noted that 'The fossil fauna of Formosa (Hayasaka) contains virtually the same elements as that of the Philippines', and that Formosa and Luzon were probably connected by a land bridge during a portion of the Pleistocene. In 1958 he reported the finds of fossil rhinoceros, stegodon, and elephant from the surface of the Cabalwan anticline in northern Luzon and from the same surface a few hand-axes and choppers as well (Solheim 1958: 62). My suggestion is that the makers of these tools (Koenigswald 1960) may have reached the Philippines from South China via Formosa, while following the large mammals reported from both Luzon and Formosa and that similar remains will in due time be found on Formosa.

Neolithic

Heine-Geldern's (1932) major subdivisions of the Southeast Asian Neolithic are useful in comparing Formosa to Southeast Asia; they are named after the typical cross-section of adzes considered the type adze of respective major migrations. These are the Walzenbeil, Schulterbeil, and Vierkantbeil.

Walzenbeil (Early Neolithic)

The Walzenbeil adze is circular to oval to lenticular in cross-section and presumably moved from the north, possibly by sea, from Japan and possibly along the China coast from northeastern China. A number of culture traits were supposedly associated with the adze, including ring-built pottery.

Beyer subdivides the Walzenbeil adze types into three subtypes and presents the distribution for these (1948: 20–28). His Type I is oval in cross-section and this is found in Japan, Formosa, Luzon and from central China southward through Vietnam, Laos, Cambodia and into Malaya, but is less common in the south of northern Vietnam. While this north south spread is possible, it remains also possible—were it not that we still lack dated sites—that the adzes evolved out of Hoabinhian and Bacsonian adzes, which were much the same shape though more crudely made. Many adzes of this variety are illustrated in the *Collection of Essays on Nan-t'ou* (Records Office of Nant'ou district, 1956) and the reports by Liu Chih-wan (1960), Liu Pin-hsiung and Liu Chih-wan (1957), Sung and Chang (1954) and others. These adzes vary from oval to rectangular and from oval to lenticular in cross-section and their form may well have been influenced by these other two forms when they entered Formosa. Ring-built pottery has not been found in the greater part of this area, though present in North China, Japan, and very rarely in Formosa and the Philippines.

Beyer's Type II is the cylindrical adze with circular cross-section. It is absent on the central and southern mainland, rare in the Philippines (Beyer 1948: 25) and not mentioned for Formosa. I have been unable to find any reference or illustration to it in the literature I have on Formosa.

Beyer's Type III is the sharp-sided or lenticular adze. It ' . . . appears to be wholly absent on the Southeast Asiatic mainland . . . [and] sparsely known from

the Philippines and Formosa . . . [it] extends eastward across Siberia to Manchuria and from there directly southward through Japan to the Bonin Islands, the Marianas, the Palaus, and on through western Melanesia to a termination in east Java' (1948: 26). In several of these areas where pottery is manufactured, ring building is still used. In Luzon among some of the Ifugao, the potters are men and they use ring building (Solheim and Schuler, n.d.). The same situation is found among the Yami on Botel Tobago (Sung 1957). Pottery manufacture by men and ring building are very rare in Southeast Asia and adjacent islands. However, a statistical analysis of pottery manufacture (Solheim, still in process) shows that while these two traits are not always present, a high percentage of the pottery traits associated with ring building exists in the primary area of distribution of the lenticular adze.

As far as Formosa and Southeast Asia are concerned, the two types of Walzenbeil adze (oval and lenticular) appear to be of distinct origin—though possibly ultimately from the same source in northeast China and Manchuria—and spread. The oval adze probably evolved out of the Hoabinhian-Bacsonian tradition in northern Vietnam and spread from there south, east into the Philippines and Formosa, and possibly north into Japan and South China. Early cord-marked pottery may have spread with this into some areas. This type of pottery is found in Formosa associated with the oval adze (see publications already cited above on the oval adze in Formosa). Pottery has not been found in early neolithic sites in the Philippines and its association with the oval adze at other sites in Southeast Asia is uncertain. The lenticular adze and ring-built pottery are associated and found sparsely in Formosa and the Philippines, though not on the Southeast Asian mainland or western Indonesia. This combination is also found in eastern Indonesia and south over much of Melanesia.

Schulterbeil (Middle Neolithic)

The Schulterbeil or shouldered axe/adze, is found in Further India, South China, northern Celebes, the Philippines, Formosa, Japan, and Korea. Beyer and Heine-Geldern consider it as being Middle Neolithic (Beyer 1948: 28–30; Heekeren 1957: 129). It is likely that two distinct periods for the tools have been classified as Schulterbeil (or as Schulterbeil and the combination of Schulterbeil and Vierkantbeil). The earlier period is primarily Middle Neolithic, but the tools of the probable later period were made in imitation of bronze shouldered adzes. While on the mainland and in the Philippines and Celebes the early shouldered and ridged adzes are Middle Neolithic, in Formosa they are commonly found, if not always, in sites associated with stepped adzes, ordinarily considered as Late Neolithic. An artifact found associated with the Schulterbeil in the Yüanshan shell-mound and related sites in Formosa, which is also linked with the Philippines and Celebes, is a polished triangular arrow or dart head (Beyer 1948: 30; Chang 1956: 379; Callenfels 1951: pls VII and XI). A possible variety of the shouldered adze is a violin-shaped tool found in Celebes, Formosa, and Japan, but not yet found in the Philippines (Heekeren 1957: pl. 47; Beyer 1948: 30; Callenfels 1951: pl. VIII). This tool was probably used as a hoe, like many other varieties of the shouldered adze, and in this use lasted until only a few hundred years ago (Kaneko 1953). A third tool is an

oblique-edged adze found in Japan, Formosa, the Philippines, and Celebes (Chang 1956: fig. 2, no. 3; Callenfels 1951: pl. VII; Beyer 1951: 94–95).

In Yüanshan related sites in Formosa, possibly associated with the Schulterbeil is a coarse pottery, at times with a red slip, round-bottomed or with a ring foot, with impressed mat or ring design and parallel dots (Chang 1956: 379). Pottery does not appear to be associated with the shouldered adze in the Philippines, and its association in the Celebes is uncertain. Pottery with a generally similar description is found in the 'Hoifung SAK' horizon and to a lesser extent the following 'Hoifung PAT' horizon of South China. Both these cultures made polished triangular arrowheads, but the SAK horizon had less developed adzes than the Schulterbeil adze type, and the PAT horizon had stepped adzes and possibly a few that are intermediate between shouldered and stepped (Maglioni 1952: 3–8).

The term 'Schulterbeil' is reasonably used to designate a tool type. The early variety of this tool type can be equated with a general Middle Neolithic, but is not a good term to serve as title for a specific culture. The tool is found over a wide area, often associated with similar artifacts; but the associated tools are not sufficiently consistent over the total area that all sites with the shouldered adze may be taken to belong to one culture. Their continued use up until a very recent time as a hoe is another reason for using it only as a type of artifact first associated with a supposed middle neolithic culture.

Vierkantbeil (Late Neolithic)

The Late Neolithic of Formosa could no doubt be subdivided into several phases as Beyer has done for the Philippines. But with the information on hand these phases cannot be distinguished and so comparisons are made on a general late neolithic level rather than by subdivisions.

The Yüanshan shell-mound, on the basis of its stone tools, in comparison to late neolithic tools from the Philippines, appears to cover the entirety of the Late Neolithic and back into the Middle and possibly even Early Neolithic. The primary reports, which I have, of the Yüanshan shell-mound cover only the stone tools found previous to 1950 and give no information on stratigraphy. It might well be that even the oval and lenticular and also the waisted (Sung 1954: pls IX–XII), and shouldered adze (Sung 1955–no. 5: pl. VIII) were contemporary with the Vierkantbeil forms found there. The quadrangular adze forms illustrated by Sung include rectangular to trapezoidal plain backed adzes (1955–No. 5: pl. V), through the ridged and early stepped forms (1955–no. 5: pls. VI–VII) to virtually the fully stepped form (1955–no. 5: pl. VII 8) along with stone boring (1955–no. 6: pl. I, VI) and possibly stone sawing (1955–no. 6: pl. VI 13). According to Chang (1956: 379) jade implements are also found here. This covers all of Beyer's subdivisions of late neolithic culture in the Philippines (Beyer 1948: 39–40). Many of these forms are found at other sites on Formosa and are found in varying numbers at sites in the South China coastal area to Formosa to Luzon (Beyer 1948: 51–54). The early form of the stepped adze is also found in Celebes (Heekeren 1957: 129 and fig. 24*b*). The stepped adze and forms transitional to it have not been found elsewhere in Southeast Asia. The small islands off the east coast of Formosa, Samasama and

Botel Tobago, do not have the stepped or transitional forms but do have other late neolithic stone-tool forms (Beyer 1947: 210).

The stone points associated with Yüanshan materials are triangular (Chang 1956: 379). These are not the typical late neolithic type but more middle neolithic, though they possibly lasted well into the Late Neolithic. The triangular polished points are also found at Fengpit'ou in a context that includes both shouldered and plain backed rectangular or trapezoidal adzes (Tsuboi 1956: 283, figs D18, 19). Stratigraphically above these forms are the more typical late neolithic polished points with stems or tangs (Tsuboi 1956: 288, figs G47–52). Polished, stemmed points are found in Batangas province in the Philippines, with similar forms from China, Indochina and the Hong Kong—Hoifung area of South China (Beyer 1948: 62–63, figs 22–23).

Pottery is definitely found in the Late Neolithic in Formosa, associated with the stone tools. Pottery from Yüanshan possibly associated with shouldered adzes is more likely Late Neolithic than Middle Neolithic. From Chang's description (1956: 379) it appears much like the pottery found elsewhere in Formosa associated with the latest neolithic artifacts and in some sites associated with iron, and in the Philippines so far found only in Iron Age sites (see below). The pottery from Fengpit'ou is more likely of neolithic origin. Associated with the shouldered adze, plain backed rectangular adze and the triangular point, is a painted and red pottery; its forms and some of its decoration are very similar to those found in two different pottery complexes in the Philippines. The decoration illustrated in figures A13–14 and 16–17 and figure B27 (Tsuboi 1956) is very similar to the typical decoration on pottery of the Novaliches pottery complex in the Philippines (Solheim, n.d.*a*), except for the *method* of decoration. The Philippine pottery is not painted but has an incised, impressed, or carved pattern. Also, the form of the vessels with this decoration (figs A13–14 and 16–17, fig. C41–42) is almost exactly the same as in the Novaliches pottery. The resemblances to the Kalanay pottery complex in the Philippines are less specific. Very rarely painted decoration is found—red or red and black on a tan background—but the patterns are not similar. The impressed decoration near the rims of the red pottery, illustrated by Tsuboi (figs D28–30, 37), appears very similar to a style of impressed decoration found on rims, angles, or flanges of the Kalanay complex pottery (Solheim, n.d.*a*; Solheim 1961: pl. VII). As to the similarity in form, the rim and body forms of the painted pottery (Tsuboi 1956: fig. A1–12) are all found in the Kalanay complex pottery, while those specific for the Novaliches complex are not present in the Kalanay complex pottery. However, many of the Kalanay complex forms are not illustrated from Fengpit'ou. The Novaliches pottery is of Iron Age association. The Kalanay pottery complex is commonly found associated with iron but has also been found in late neolithic sites (Solheim 1961*b*: 162–163).

Stratigraphically, above the painted and red pottery of Fengpit'ou was found a black and brown pottery, associated with the more typical late neolithic stone artifacts already mentioned. While this pottery is distinct from the earlier pottery it has several resemblances in form though virtually none in decoration. Some of the apparently new forms and of the continued forms are similar to forms of the Kalanay Complex pottery on the Philippines (Tsuboi 1956: fig. E–F; Solheim

1961*b*: fig. 2). Several of the new decorative elements are also found on Kalanay complex pottery, and in particular triangular or varieties of chevron designs (Tsuboi 1956: figs E9, 11, F22, 23, 25, 26, 34–36, 40; Solheim 1691*b*; fig. 1, 5th, 6th, and 8th row). While several elements in both form and design are shared between the red painted pottery, the black and brown pottery, and pottery of the Kalanay pottery complex, their differences are more obvious than their similarities. These pottery groups do not give the feeling of being closely related.

Bronze Age

There probably was no distinct Bronze Age in Formosa but a small number of artifacts, some of these being heirlooms, are known and equated with the so-called Dongson bronze culture. Kano illustrates several of them, ordinarily a dagger handle of bronze, in the form of a total human body with the emphasis on the head, often with some form of headdress or turban (1946: pls 16, 19; 1952: pl. 22). Generally similar figures of bronze, also forming handles, are illustrated by Kano from Dongson (1946: 205, pl. 17) and from Malaya or Indonesia (1946: 208). Standing figures now made in brass, but probably formerly in bronze, are found on the end of walking sticks in the Mountain Province of Luzon. A number of dancing figures in bronze, probably used as pendants rather than as handles, were found in Sumatra (Heekeren 1958: 36–37, pl. 9). There is considerable variation in these figures but they all share the representation of a human figure in bronze often functioning as a handle. There is no indication of a 'Dongson culture' spreading over a wide area but rather indications of some elements from a possible Dongson culture, as found at Dongson, diffusing in a scattered pattern over a wide area.

Iron Age

Iron artifacts are as rare as those of bronze, at least in the reports. The one illustrated iron artifact that I have come across is from Fantzuyüan shell-mound in T'aichung prefecture near the west coast of Formosa. Several stone tools were found in the same layer as the iron knife-blade but they have a generally curved sharp edge and a blunt straight back that is not similar to the neolithic tools discussed before (Shih and Sung 1956: 49, pls IV, VII). Two prone burials were found associated with the same cultural layer, but without any mortuary objects. Potsherds were abundant; the rim and body sherds indicated a common form with slightly everted rim and rounded or slightly flattened bottom. The gray and black wares are primarily plain with 6·04% decorated with incised parallel straight and wavy lines and patterns made up with dots, all made using a comb-like instrument. Brown wares differ only slightly from this but have less decoration (Shih and Sung 1956: 87–88, pl. V). A few sherds of the gray and black ware show that a carved paddle with parallel ribs was used, and that simple and pressed designs were done with a simple tool (pl. VI, 1–5, 7–9). Sherds of a grayish-brown ware are distinct in paste and decoration; exteriors are all covered with carved paddle decoration (88, pl. VI, 10–24) like the 'Bao-Malay' pottery of Southeast Asia (Solheim 1959: 2–3).

The general decoration of the two distinct pottery groups at Fantzuyüan shell-mound fits the pottery as described by Chang (1956: 379–380) for his *(b)* Yüanshan culture, *(c)* brown impressed checker-design pottery culture, *(d)* black and gray pottery culture, and *(f)* gray and brown impressed checker-design pottery culture. These two general types of decoration: the comb-incised and impressed, and the carved paddle impressed, probably entered Formosa in the Late Neolithic—the latter decoration, at least, lasted to the present day.

Both these general kinds of pottery decoration are found in the Philippines and elsewhere in Southeast Asia. The comb-incised and impressed decoration appears to be less widely distributed in Indonesia and Southeast Asia but extends into Melanesia. In the Philippines the earliest carved-paddle impressed pottery appears in Palawan by A.D. 200 or 300 (Solheim, n.d.*b*). This pottery (Solheim, n.d.*b:* pl. I–III) is very similar in appearance to that of Fantzuyüan (Shih and Sung 1956: pl. VI 10–24) and Mat'oulu (Sung and Chang 1954: pl. II 13–21). The comb-incised wavy lines and related patterns are considerably later in the Philippines, and are found at sites in Santubong, Sarawak, and Oc-Èo, Vietnam, probably sometime between A.D. 500 and 1,000; in all cases they are several hundred years after iron has come in. In Formosa both decorations are found together and appear to be of the same age, from late neolithic times on. According to Chang (1956: 379–380), Mat'oulu is one of the type sites of the early black and gray pottery culture and has both kinds of decoration. Mat'oulu contains no iron and has all the appearance of being a late neolithic site (Sung and Chang 1954). Fantzuyüan, with both kinds of decoration from the same layer, includes an iron knife.

Urn Burials

Large earthern burial jars have been excavated only on the eastern side of Formosa and on the islands of Samasama and Botel Tobago (Solheim 1961*a:* 137). Most of the excavated jars had no associated artifacts; some on Samasama contained white and green or light blue glass beads (Solheim 1961*a:* 139). Glass beads are usually associated with iron and are not considered to be pre-iron, though they may have been traded into a neolithic community before iron. Burial jars are used to the present day. The Kuvalan tribe in northeastern Formosa still practise it (Solheim 1961*a:* 139). It is also still found in Taipei. When I visited the Yüanshan shell-mound in 1960 under the guidance of Liu Chih-wan and Liu Pin-hsiung our way led through a circular area with a cylindrical brick structure in the centre. Crowded around outside this structure and inside as well were many earthernware jars containing secondary burials, some of them quite fresh. These were on the surface rather than buried.

Earthernware burial jars have been found from Japan, through the Babuyan and Batanes islands in the Philippines into Indonesia (Solheim 1961*a:* 143–144) and Annam (Solheim 1961*c*). Many are generally similar, but the associated artifacts vary greatly. Their spread in these areas does not appear to be due to the migration of a 'jar burial culture' (Solheim 1961*a:* 144–145).

Megaliths

Kano states that the megalithic complex includes bronze and iron. He says that 'It is to date limited to the east coast and southern Formosa. The characteristic inventory consists of menhirs, stonewalls, stone-cysts (from cut slabs), mortars, stone pestles, mealing stones, etc.' (Kano 1952: 180). With these we may include the stone platforms still found among the Paiwan (Ling 1959: pl. 1).

Such megaliths are scattered in many areas of Southeast Asia: the Philippines, northern Laos, Malaya, Sumatra, Nias, Java, Borneo, and Celebes. These stone platforms with associated menhirs, like that pictured for the Paiwan, are found among the Bontok and in the Mountain Province of the Philippines, and out into Polynesia.

Conclusions

Very little can be said for the present on specific relationships between Formosa and Southeast Asia. Nearly all the artifact types found in Formosa can be matched with similar types in Southeast Asia, particularly in the Philippines and to a lesser degree in Celebes and northern Indochina. No complex of artifacts from a specific site in Formosa can be closely connected with a corresponding complex from a specific site in Southeast Asia. Further intensive archæology in these areas may eventually discover closely comparable sites.

The majority of the prehistoric relationships between Formosa and Southeast Asia do not appear to me to be direct, but the result of small movements from a common general source in South China and northern Indochina and possibly, even more important, diffusion of specific culture elements in all directions from late neolithic times on. A direct connection in the Early Neolithic by some movement from the north along the east coast of Formosa and the Philippines into eastern Indonesia remains possible.

References

Beyer, H. Otley

1947 Outline review of Philippine archæology by islands and provinces, *PJS*, **77**: 205–374.

1948 Philippine and East Asian archæology, and its relation to the origin of the Pacific Islands population, National Research Council of the Philippines, *Bull.* **29.**

1951 Additional notes to 'Prehistoric sites on the Karama River', *JEAS*, **I***(i)*: 94–97.

1956 Group four: Five papers on the prehistory and early history of Formosa; Preliminary note, *PFFEPC*, Part I, 2nd fasc.: Section 1, 271–275.

Bylin-Althin, Margit

1932 Notes sur quelques objets néolithiques trouvés à Formose, *BMFEA*, **4.**

Callenfels, P. V. van Stein

1951 Prehistoric sites on the Karama River, *JEAS*, **I***(i)*: 82–93.

Chang Kwang-chih

1956 A brief survey of the archæology of Formosa, *SJA*, **12**: 371–386.

Heekeren, H. R. van

1957 The Stone Age of Indonesia, *Verhandelingen van het Koninklijk Instituut voor Taal-, Land- en Volkenkunde*, **21.**

1958 The Bronze-Iron Age of Indonesia, *Verhandelingen van het Koninklijk Instituut voor Taal-, Land- en Volkendunde*, **22.**

HEINE-GELDERN, ROBERT von
1932 Urheimat und fruheste Wanderungen der Austronesier, *Anthropos*, **27**: 543–619.

(KANEKO), ERIKA PURSE-STANEK
1953 Stone implements and their use in the agriculture of Taiwan, *Wienner Völkerkundliche Mitteilungen*, **1***(ii)*: 22–31.

KANŌ TADAO
1946 *Studies in the ethnology and prehistory of Southeast Asia*, Vols I and II, Tokyo, Shobō
1952 & Co.

KOENIGSWALD, G. H. R. von
1956 Fossil mammals from the Philippines, *PFFEPC*, Part I, 2nd fasc.: Section 1, 339–369.
1960 Preliminary report on a newly-discovered stone age culture from Northern Luzon, Philippine Islands, *AP*, **2**(ii): 69–70.

KOKUBU NAOICHI
1956 Note on the burial customs in prehistoric Formosa, *PFFEPC*, Part I, 2nd fasc.: Section 1, 309–318.

LEACH, E. R.
1938 Stone implements from Botel Tobago Island, *M*, **38**: 161–163.

LING SHUN-SHENG
1959 Ancestral tablet and genital symbolism in ancient China, *BIEAS*, **8**: 39–76.

LIU CHIH-WAN
1960 The Chün Kung Liao site, Nan-t'ou prefecture, *Report of historic-geographical studies of Taiwan*, **11**(iii) Taiwan, The Historical Research Commission of Taiwan Province.

LIU PIN-HSIUNG and LIU CHIH-WAN
1957 *Archæological survey of the Sun-Moon lake, Nan-t'ou, Taiwan*, Nan-t'ou, Records Office of Nan-t'ou District.

MABUCHI TOICHI
1956 Some oral traditions relating to urn-burial in Formosa, *PFFEPC*, Part I, 2nd fasc.: Section 1, 319–328.

MAGLIONI, RAPHAEL
1952 Archæology in South China, *JEAS*, **2**(i): 1–16.

MIYAMOTO NOBUTU
1956 A study of the relation between the existing Formosan aborigines and Stone Age remains in Formosa, *PFFPEC*, Part I, 2nd fasc.: Section 1, 329–334.

RECORDS OFFICE OF NAN-T'OU DISTRICT
1956 *Collection of essays on Nan-t'ou*, Nan-t'ou, Taiwan.

SHIH CHANG-JU and SUNG WEN-HSÜN
1956 Minor excavations at T'ieh-chan-shan, *BDAA*, **8**: 35–92.

SOLHEIM, WILHELM G., II
1958 Philippines, *AP*, **2**(i): 62–63.
1959 Two major problems in Bornean (and Asian) Ethnology and Archæology, *SMJ*, **9**(13–14) (N.S.), 1–5.
1961*a* Jar burial in the Babuyan and Batanes Islands and in central Philippines, and its relationship to jar burial elsewhere in the Far East, *PJS*, **89**: 115–148.
1961*b* Further notes on the Kalanay Pottery Complex in the P.I., *AP*, **3**: 157–165.
1961*c* Introduction to Sa-huỳnh, *AP*, **3**: 97–108.
n.d.*a* The archæology of central Philippines: a study chiefly of the iron age and its relationships, *PJS*, in press.
n.d.*b* Two late prehistoric pottery traditions in Southeast Asia, paper presented at Golden Jubilee Congress, University of Hong Kong, 1961.

SOLHEIM, WILHELM G., II and SCHULER, TERRY
n.d. Further notes on Philippine pottery manufacture: Mountain Province and Panay, *JEAS*, (in press).

SUNG WEN-HSÜN

1954–1955 Stone implements from Yüan-shan shell-mound collected before 1950, (Parts 1–3), *BDAA*, **4–6:** 28–38, 44–58, 34–45.

1957 Pottery making of the Formosan aborigines Part I. The Botel-Tobago Yami, *BDAA*, **9–10:** 149–152.

SUNG WEN-HSUN and CHANG KWANG-CHIH

1954 Digging of prehistoric sites by the banks of the Shuiwei River, Taichung Prefecture, *BDAA*, **3:** 26–38 and 67.

TSUBOI KIYOTARI

1956 Feng-pi-t'ou: A prehistoric site in South Formosa that yielded painted and black pottery, *PFFEPC*, Part I, 2nd fasc.: Section 1, 277–302.